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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/12/2002

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EXAMINER

MACK, COREY D

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 09/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/907,228

Applicant(s)

MEYER ET AL.

Examiner

Corey D. Mack

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 24-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-14 is/are rejected.
- 7) ☒ Claim(s) 4, 5 and 15-23 is/are objected to.
- 8) ☒ Claim(s) 2 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 6.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 7.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-23, drawn to a load cell body, classified in class 73, subclass 862.042.
 - II. Claims 24-27, drawn to a method of making a load cell body, classified in class 29, subclass 592. The inventions are distinct, each from the other because of the following reasons:
2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are an apparatus and a method of making (manufacturing).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with Steven M. Koehler on 09 September 2002 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 24-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

DETAILED ACTION

Specification

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The abstract of the disclosure is objected to because of the language "The present invention is" in line 1. Correction is required. See MPEP § 608.01(b).

Claim Objections

9. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

10. Misnumbered claims 23-26 have been renumbered 24-27.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-3, 6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Shull et al. (US 3,618,376). Shull et al. (US 3,618,376) disclose in Fig. 1-7 a the load cell body comprising: an integral assembly 10 having: a first ring member 14 and a second ring member 16, each ring member having a central aperture 26 centered on a reference axis (Claim 1); at least three tubes 18, 20, 22, 24 extending from the first ring member to the second ring member parallel to the reference axis Z (Claim 1); tension/compression sensors S_{1-32} mounted on selected tubes (Claims 2 and 3); a mounting hub 41 including a first annular rim 44 joined to the first ring member, a second annular rim 42 including a plurality of bores extending there through and a cylindrical support extending between the first annular rim and the second annular rim (Claim 6); an outer surface of each tube 18, 20, 22, 24 includes a plurality of opposed surfaces and wherein the sensors S_{1-32} are mounted to the opposed surfaces (Claim 8); a first pair of surfaces facing in opposite directions and a second set of surfaces facing in opposite directions, the second set of surfaces being substantially orthogonal to the first set of surfaces such that the surfaces of the first set and the second set are alternately disposed about each corresponding longitudinal axis and wherein the sensors are mounted to the surfaces of the first and second sets of surfaces (column 4, lines 36-67) (Claim 9); each of the opposed surfaces is planar (column 2, lines 63-66); and, the first shear sensing circuits of each of said adjacent pair of tubes are electrically

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coupled to provide an output signal, and wherein the second axial tension/compression sensing circuits of each of said adjacent pair of tubes are electrically coupled to provide an output signal (column 4, line 8 – column 5, line 36).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 7 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shull et al. (US 3,618,376). Shull et al. (US 3,618,376) a the load cell body comprising: an integral assembly 10 having: a first ring member 14 and a second ring member 16, each ring member having a central aperture 26 centered on a reference axis; at least three tubes 18, 20, 22, 24 extending from the first ring member to the second ring member parallel to the reference axis Z; tension/compression sensors S_{1-32} mounted on selected tubes; a mounting hub 41 including a first annular rim 44 joined to the first ring member, a second annular rim 42 including a plurality of bores extending there through and a cylindrical support extending between the first annular rim and the second annular rim; an outer surface of each tube 18, 20, 22, 24 includes a plurality of opposed surfaces and wherein the sensors S_{1-32} are mounted to the opposed surfaces; a first pair of surfaces facing in opposite directions and a second set of surfaces facing in opposite directions, the second set of surfaces being substantially orthogonal to the first set of surfaces such that the surfaces of the first set and the second set are alternately disposed about each corresponding longitudinal axis and wherein the sensors are mounted to the surfaces of the first

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and second sets of surfaces (column 4, lines 36-67); each of the opposed surfaces is planar (column 2, lines 63-66); and, the first shear sensing circuits of each of said adjacent pair of tubes are electrically coupled to provide an output signal, and wherein the second axial tension/compression sensing circuits of each of said adjacent pair of tubes are electrically coupled to provide an output signal (column 4, line 8 – column 5, line 36). However, they do not disclose eight, non-rectangular or octagonal tubes. While Shull et al. (US 3,618,376) does not explicitly disclose these features it does disclose plural columns arranged geometrically around the rings having the claimed sensor arrangement. It would have been within the knowledge of one of ordinary skill in the art to use eight columns in order to increase the sensitivity of the measurements (Claim 10). It would have also been within the knowledge of one of ordinary skill in the art to use non-rectangular or octagonal columns in order to appropriately distribute the forces around the columns (Claims 7 and 12). Therefore, at the time the invention was made, it would have been within the knowledge of one of ordinary skill in the art to include in Shull et al. (US 3,618,376) eight, non-rectangular or octagonal tubes in order to more accurately measure load on a load-measuring cell.

Allowable Subject Matter

15. Claims 4, 5 and 15-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey D. Mack whose telephone number is (703) 305-3424. The examiner can normally be reached on M-F, 8:30-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 308-1782 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.



Corey D. Mack, Esq.
Patent Examiner
Art Unit 2855

September 8, 2002



Benjamin R. Fuller
Supervisory Patent Examiner
Technology Center 2800